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Telephony

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THE PUBLIC NETWORK GOES ON-LINE
The first BOC videotex gateways are open for business in Atlanta and Vermont

GTE CAUGHT IN TEXAS RATE CASE CONTROVERSY
1100 jobs are cut and more are in jeopardy

MCI PROTESTS EXPANSION OF FTS 2000
It claims GSA is unfairly foisting network on agencies

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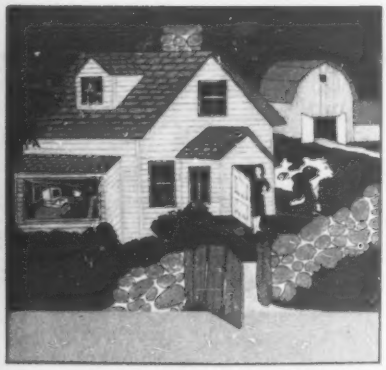

Will Nynex's new videotex gateway have appeal across the Vermont countryside? Other RHCs and industry skeptics are closely eyeing the Vermont landscape, as well as Atlanta's new BellSouth gateway, to see if the services will fly. Cover art by Laura M. Doyle

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By Scott Douglas. The seedling videoconferencing industry seems ready to bloom with the onset of dropping costs and increasing performance and ability. Bursts of profits and growth can't be far behind

Why travel when you can call?

Although the videoconferencing industry is still in its infancy, it is a market ready to bloom. Costs are going down and performance and availability are going up. Can profits and exploding growth be far behind?

SCOTT DOUGLAS

As always—at least in the days of the old Bell System—AT&T was there first.

In 1982 it launched its Picturephone Meeting Service, the earliest public videoconferencing rooms available. Three years later, it shut them all down, saying that the service never really lived up to early expectations.

But AT&T didn't abandon public videoconferencing in 1985; it just shifted direction. Instead of operating its own rooms, it announced in August 1985 that it was entering a joint venture with Hilton Hotels to operate a videoconferencing service in hotel meeting rooms so that participants had access to basic amenities such as meal service, parking, 24-hour availability and lodging.

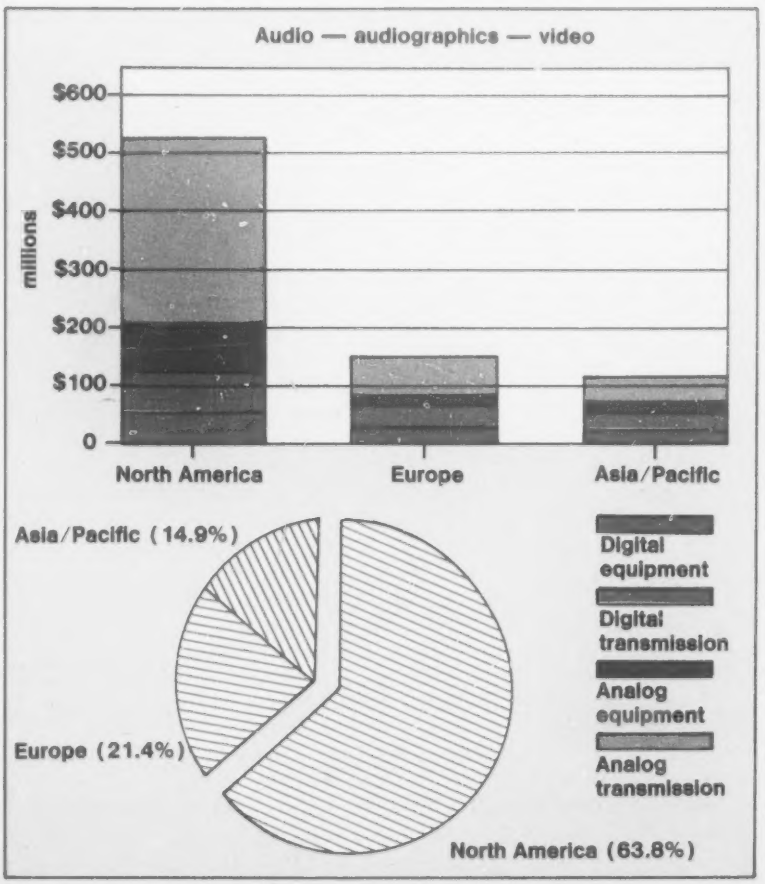
The marketing agreement between AT&T and Hilton has ended, although approximately 12 Hilton hotels still offer videoconferencing service.

Since AT&T took the first swing in the videoconferencing ballgame, the market has changed dramatically. Digital videoconferencing currently represents $230 million, or about 29%, of the total global market for teleconferencing (Figure 1), which was approximately $800 million at the end of 1988 (Figure 2). About half of the world's videoconferencing takes place in the United States. European countries represent 30% of the world market for interactive videoconferencing. And Japan leads the Far East in using the equipment, developing the technology and investing in U.S. firms that already have developed image communications technology.

Within the U.S., the annual growth rate of videoconferencing has been—and is expected to remain—in the 25% to 30% range. Outside the U.S., the growth rate is even greater.

Even in the U.S., though, the digital video systems market is still in its infancy—with only 1000 systems installed at the end of last year. Using digital videoconferencing a group of individuals can conduct a face-to-face meeting without traveling. Facial expressions and voice inflections, as well as graphics, computer-generated data and images of objects, can be easily shared using cameras, television monitors, an audio system, a video codec and a digital telecommunications line.

FIGURE 1 WORLDWIDE '88 TELECONFERENCING REVENUES



Industry Trends

There are a number of key trends in the technology as well as the market for image communications. Hardware costs are decreasing. The importance of software-based products is increasing. And

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Why Travel *continued*

most North American, Japanese and Northern European telecommunications managers will have the integrated services digital network by the early 1990s, opening the market for a new generation of videoconferencing products.

Within the next five years many new uses will surface for these technologies. Desk-to-desk teleconferencing may spur the growth of videoconferencing, with the camera and the codec being two of the options available to the office workstation.

The use of videoconferencing codecs for trans-Atlantic communications, however, will remain expensive until trans-Atlantic ISDN becomes readily available and users embrace the technology as a viable alternative to business travel.

Get Moving

There have been a number of breakthroughs in digital motion videoconferencing. In addition to ISDN, these developments include the introduction of a codec on a personal computer board and the debut of integrated videotelephones. And, the CCITT will recommend in July 1990 an intermediate international standard for videoconferencing at multiples of 64 kb/s that will be finalized by 1992.

ISDN will reduce prices for quipment and network usage for dial-up teleconferences. Users will be able to select equipment from different manufacturers based upon factors such as local support, price and performance. Within the U.S., all Bell regional holding companies and the majority of the Independent telephone companies have ISDN trials in progress. More than half of the RHCs have some form of commercial ISDN service available. And worldwide there are at least 12 countries that currently offer ISDN service or plan to by the early 1990s.

Although a half dozen manufacturers offer codecs that operate at the basic ISDN rate of 128 kb/s, and all codec manufacturers plan to interface with ISDN, the standard that will allow interoperability at data rates from 64 kb/s through 2.048 Mb/s is not expected to be in place until next year.

The original codec produced in the late 1970s was as large as a rack of equipment 8 ft. high. In the last two years, it has shrunk to the size of a single board within a personal computer. As a result, power and heat displacement requirements also are being reduced. In the next decade, it is likely that research and development efforts will lead to a codec on a chip.

It's a Small, Small World

In the early days of videoconferencing, users could only use the technology in a custom-built videoconferencing room. Now users have the option of using modular units, small roll-about units, PC-based units and videotelephones. As options have increased for users, the price tag for using videoconferencing technology has decreased from $250,000 to $500,000 for a custom videoconferencing

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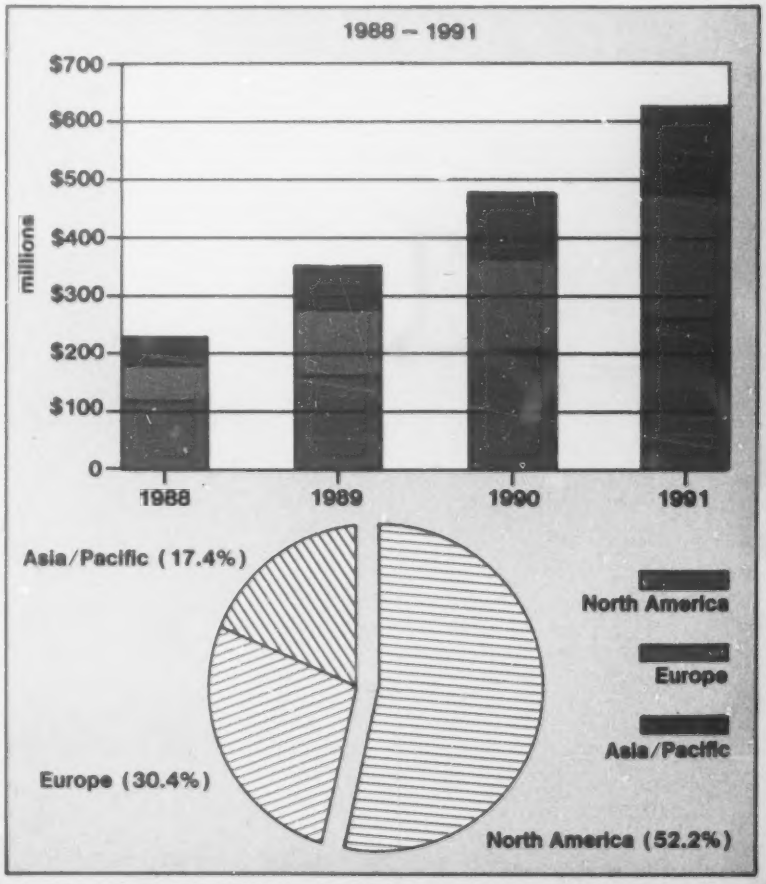
FIGURE 2 WORLDWIDE DIGITAL VIDEOCONFERENCING



Videoconferencing codec suppliers

CIT-Alcatel
Compression Labs
Concept Communications
EyeTel Communications
GPT Video Systems
Mitsubishi Electronics
NEC America
OKI America
Philips Kommunikations Industries
PictureTel
Tandberg Telecom
Videocom International
VideoTelecom
Vistacom Industries

Why Travel *continued*

room to as little as $12,000 for a codec on a PC board. Within three years the price could easily drop to $2000 for a PC board codec.

At the Telecon VIII conference in Anaheim, Calif., last fall, Oki, NEC and Mitsubishi all displayed videotelephones as small as executive desk telephones that were based on Kokusai Denshin Denwa's Invite 64 videotelephone. Vistacom, a European manufacturer, showed an integrated videotelephone that had a codec the size of a PC.

And Datapoint, a U.S. vendor, showed a PC-based system that communicates on a local area network and uses a codec for long-distance videoconferencing.

In addition to these suppliers, there are several Japanese firms—Sony, Fujitsu, Matsushita and Sanyo—that plan to offer videoconferencing in the U.S. in the near future.

There currently are many obstacles to videoconferencing market growth. The lack of industry standards for lower rate—384-kb/s down to 56-kb/s—video systems is just one of many roadblocks that restrain growth by limiting user choices.

Lack of connectivity to switched, digital networks in multiples of 56 kb/s and 64 kb/s is another hurdle because the available limited motion video codec technology is most effective at those rates. As the technology advances, the image quality is expected to improve enough so that these basic rates would be acceptable to the market. And as ISDN becomes more readily available, higher transmission rates will be more accessible.

Lack of international digital connectivity is being overcome through the efforts to implement the trans-Atlantic and Pan-Pacific fiber optic cable networks. Although satellites provide digital connectivity, there is not much room left for digital growth on the existing transoceanic satellites.

The growth of the videoconferencing industry depends on a number of trends and developments: the arrival in Europe and North America of narrowband ISDN services; the development of algorithms that provide compression of full-motion color images to 56 kb/s and 64 kb/s; the increasing provision of a greater range of communications functions for PCs; and the development of the intermediate international CCITT standard for 64 kb/s to 2.048 Mb/s in July 1990.

The future for image communications looks bright. Both the videoconferencing products and the networks they rely on are increasing in performance and availability and decreasing in cost. What more could a blossoming industry want? ■

Scott M. Douglas is the Managing Partner at Telemanagement Resources International Inc., Lake Wylie, S.C.

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